

The Office Action has withdrawn claims 18-19 and 22-23 from consideration as being drawn to an unelected species, and requests that Applicants either cancel those claims or make them depend from an allowed generic claim. Applicants submit that amended claim 1 is allowable and, since claims 18-19 and 22-23 depend from claim 1, respectfully submit that claims 18-19 and 22-23 should also be allowed.

The Office Action rejects claims 1, 7, 10, 11, and 15 under 35 U.S.C. § 103(a) as unpatentable over Rae in view of Manikowski. This rejection is respectfully traversed.

The Office Action asserts that the primary Rae reference discloses in claim 6 an engine configured to produce a hydrogen-rich exhaust. Claim 6, however, requires that the fuel is hydrogen whereas Applicants' claimed invention specifies hydrocarbon as the fuel. The engine of Rae claim 6, with its hydrogen fuel, is incapable of producing an exhaust gas comprising hydrogen and carbon monoxide as required by Applicants claim 1. Moreover, neither Rae nor Manikowski disclose or suggest an engine configured to produce a hydrogen-rich exhaust gas having a combined carbon monoxide and hydrogen content of greater than 30 volume percent as required by Applicants' claims.

believed to be obviated by the above amendment to claim 1, which incorporates the limitations of claim 2 into claim 1, removing the word "about" originally found in claim 2. The rejection of claim 1 *et seq.* will therefore be discussed below with regard to the rejection of claim 2.

With respect to the requirement of Applicants' claimed invention that it produce a hydrogen-rich exhaust gas having a combined carbon monoxide and hydrogen content of greater than 30 volume percent, the Office Action argues in the rejection of claims 2 and 3 that Houseman 3,982,910 discloses a hydrogen-rich gas generator that produces such a gas. However, the Houseman 3,982,910 reference relates not to a tractive power-producing engine as specified in Applicants' claims, but to a simple combustive reactor. Applicants submit that the mere fact that such a reactor can produce a high hydrogen and carbon monoxide content product gas does nothing to render obvious Applicants' invention of using an oxygen enrichment device in conjunction with an extended rich mode engine configured to produce a continuous hydrogen rich engine exhaust having a combined hydrogen and carbon monoxide volume content greater than 30%. There is nothing in the Houseman et al disclosure that suggests Applicants' invention

of using an oxygen enrichment device in an engine that produces *both* tractive power *and* hydrogen-rich exhaust gas having more than 30% by volume of hydrogen and carbon monoxide.

Furthermore, with respect to claim 3, the Office Action acknowledges that claim 3 distinguishes from the cited art, but asserts that the use of the word “about” in the claim renders it sufficiently broad so as to read on obvious variants of the cited art. Applicants have now removed the word “about”, and therefore respectfully submit that the rejection of claim 3 should be withdrawn.

For all the reasons cited above, and since the application is otherwise in condition for allowance, Applicants respectfully request early favorable action. If there are any additional charges with respect to this amendment or otherwise, please charge them to Deposit Account No. 50-0831.

Respectfully submitted,

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